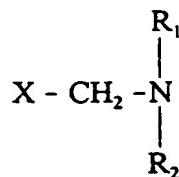


CLAIMS:

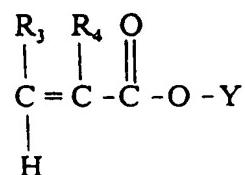
1. A method of preparing a chloride free amphoteric surfactant comprising reacting an amine having the general formula:

5



I

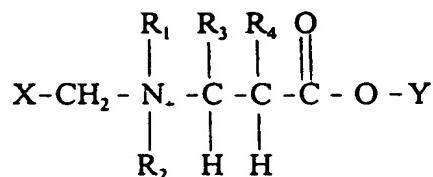
10



II

to produce an amphoteric surfactant having the formula:

15



III

wherein X is a hydrocarbyl group containing from 2 to 36 carbon atoms, which can be optionally substituted with functional groups, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are

independently hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms and Y is hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms wherein any of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and Y can be optionally substituted with functional groups, and wherein said reaction is carried out in the substantial absence of any chloride containing compound.

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2. The method of Claim 1 wherein said reaction is conducted at a temperature of between 10° and 150° C.

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3. The method of Claim 1 wherein said reaction is conducted in a solvent system.

4.

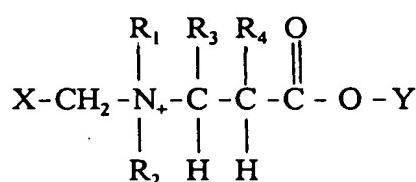
The method of Claim 3 wherein said solvent system is selected from the group consisting of water, alcohols, glycols, glycol ethers and mixtures thereof.

5. The method of Claim 1 wherein said reaction is conducted in the presence of an alkali metal hydroxide catalyst.

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6. A chloride free amphoteric surfactant having the formula:

III



wherein X is a hydrocarbyl group containing from 2 to 36 carbon atoms, which can be optionally substituted with functional groups, R<sub>1</sub> R<sub>2</sub> R<sub>3</sub> and R<sub>4</sub> are independently hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms and Y is hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms  
5 wherein any of R<sub>1</sub> R<sub>2</sub> R<sub>3</sub> R<sub>4</sub> and Y can be optionally substituted with functional groups, said surfactant being free of any significant amount of chloride containing compounds.

7. A method of treating a gas well comprising:  
introducing into said well an aqueous mixture comprising an effective amount  
10 of the composition of Claim 6.

8. The method of Claim 7 wherein the weight ratio of amphoteric surfactant to water in said aqueous mixture is from about 4 to 1 to about 10 to 1.